

CLAIMS

We claim:

1. A child-resistant fluid delivery device, comprising:
a container for storing fluid to be dispensed by the fluid delivery
5 device;
a wand having a proximal end, a distal end and a fluid passageway
therethrough;
a child-resistant connector at the proximal end of the wand for
connecting the wand to the container;
10 a first ratchet mechanism formed on the exterior of the child-resistant
connector to permit attachment of the connector to the container and thereafter resist
removal of the connector from the container;
a nozzle at the distal end of the wand; and
a removable, child-resistant cover for sealing the nozzle, the child-
15 resistant cover including at least one member that engages the nozzle to resist removal
therefrom.
2. The child-resistant fluid delivery device according to claim 1,
wherein the member formed in the child-resistant cover engages a recess formed in the
nozzle to resist removal of the cover from the nozzle.
- 20 3. The child-resistant fluid delivery device according to claim 2,
wherein the member is an inwardly extending tab projecting from an interior region of

the child-resistant cover.

4. The child-resistant fluid delivery device according to claim 3, wherein the recess is a channel formed around the perimeter of nozzle.

5. The child-resistant fluid delivery device according to claim 4,
5 wherein the nozzle includes at least one groove intersecting with the channel and extending longitudinally from the channel toward a distal end of the nozzle to permit removal of the child-resistant cover from the nozzle when the member formed on the nozzle is aligned with the groove.

6. The child-resistant fluid delivery device according to claim 5,
10 further comprising alignment indicia formed on the nozzle and child-resistant cover, which, when aligned, indicate that the member formed on the nozzle is aligned with the groove.

7. The child-resistant fluid delivery device according to claim 1,
wherein internal threads formed in the child-resistant cover engage external threads
15 formed on the nozzle to permit the cover to be threaded onto the nozzle.

8. The child-resistant fluid delivery device according to claim 7,
further comprising a second ratchet mechanism having a plurality of ratchet teeth
formed along the circumference of the wand assembly, the ratchet teeth engaging at
least one rigid tab inwardly projecting into an interior region of the child-resistant
20 cover, the ratchet teeth being configured to permit rotation of the cover relative to the
nozzle in a first direction that permits attachment of the cover onto the nozzle and to

prevent rotation in an opposing direction to resist removal of the cover from the nozzle.

9. The child-resistant fluid delivery device according to claim 8, wherein the at least one inwardly projecting tab may be disengaged from the ratchet teeth by deforming the child-resistant cover to permit rotation of the cover relative to the nozzle in the opposing direction to remove the cover from the nozzle.

10. The child-resistant fluid delivery device according to claim 1, wherein the first ratchet mechanism comprises a plurality of ratchet teeth formed about the perimeter of the child-resistant connector for engaging at least one rigid tab formed on the container, the teeth being configured to permit movement of the child-resistant connector relative to the container in a first direction and to resist such movement in an opposing direction.

11. The child-resistant fluid delivery device according to claim 1, wherein the container includes an externally threaded spout for engaging internal threads formed within the child-resistant connector.

12. The child-resistant fluid delivery device according to claim 1, wherein the fluid passageway in the wand provides a fluid communication path for fluid to pass from the container to the nozzle.

13. The child-resistant fluid delivery device according to claim 1, further comprising a valve for controlling the flow of fluid through the wand.

14. The child-resistant fluid delivery device according to claim 13,

wherein the valve is movable from a first position that prevents the flow of fluid through the wand to a second position that permits the flow of fluid through the wand.

15. The child-resistant fluid delivery device according to claim 1, wherein the nozzle is formed integrally with the distal end of the wand.

5 16. The child-resistant fluid delivery device according to claim 1, wherein the nozzle is threaded onto the distal end of the wand.

17. The child-resistant fluid delivery device according to claim 1, wherein the child-resistant cover is tethered to the wand.

10 18. The child-resistant fluid delivery device according to claim 1, further comprising a pump for pressurizing the fluid within the container.

19. The child-resistant fluid delivery device according to claim 1, wherein the fluid within the container is pressurized by squeezing the container.

15 20. A wand assembly for a child-resistant fluid delivery device that includes a container for storing fluid to be dispensed by the fluid delivery device, the wand assembly comprising:

a tube having a proximal end, a distal end and a fluid passageway therethrough;

a nozzle at the distal end of the tube; and

20 a removable, child-resistant cover for sealing the nozzle, the child-resistant cover including at least one member that engages the nozzle to resist removal therefrom.

21. The wand assembly according to claim 20, wherein the member formed in the child-resistant cover engages a recess formed in the nozzle to resist removal of the cover from the nozzle.

22. The wand assembly according to claim 21, wherein the member
5 is an inwardly extending tab projecting from an interior region of the child-resistant cover.

23. The wand assembly according to claim 22, wherein the recess is a channel formed around the perimeter of nozzle.

24. The wand assembly according to claim 23, wherein the nozzle
10 includes at least one groove intersecting with the channel and extending longitudinally from the channel toward a discharge end of the nozzle to permit removal of the child-resistant cover from the nozzle when the member formed on the nozzle is aligned with the groove.

25. The wand assembly according to claim 24, further comprising
15 alignment indicia formed on the nozzle and child-resistant cover, which, when aligned, indicate that the member formed on the nozzle is aligned with the groove.

26. The wand assembly according to claim 20, wherein internal threads formed in the child-resistant cover engage external threads formed on the nozzle to permit the cover to be threaded onto the nozzle.

27. The wand assembly according to claim 26, further comprising a
20 ratchet mechanism having a plurality of ratchet teeth formed along the circumference

of the tube, the ratchet teeth engaging at least one rigid tab inwardly projecting into an interior region of the child-resistant cover, the ratchet teeth being configured to permit rotation of the cover relative to the nozzle in a first direction that permits attachment of the cover onto the nozzle and to prevent rotation in an opposing direction to resist
5 removal of the cover from the nozzle.

28. The wand assembly according to claim 27, wherein the at least one inwardly projecting tab may be disengaged from the ratchet teeth by deforming the child-resistant cover to permit rotation of the cover relative to the nozzle in the opposing direction to remove the cover from the nozzle.

10 29. The wand assembly according to claim 20, further comprising a connector at the proximal end of the tube adapted to connect the wand assembly to the container.

30. The wand assembly according to claim 29, further comprising a second ratchet mechanism formed on the exterior of the connector for permitting
15 attachment of the connector to the container and thereafter resisting removal of the connector from the container.

31. The wand assembly according to claim 30, wherein the second ratchet mechanism comprises a plurality of ratchet teeth formed about the perimeter of the connector for engaging at least one rigid tab formed on the container, the teeth
20 being configured to permit movement of the connector relative to the container in a first direction and to resist such movement in an opposing direction.

32. The wand assembly according to claim 20, further comprising means for connecting the wand assembly to the container.

33. The wand assembly according to claim 20, wherein the connector includes internal threads for engaging external threads formed on the container.

34. The wand assembly according to claim 20, wherein the fluid passageway in the tube provides a fluid communication path for fluid to pass from the container to the nozzle.

35. The wand assembly according to claim 20, further comprising a valve for controlling the flow of fluid through the fluid passageway.

36. The wand assembly according to claim 35, wherein the valve is movable from a first position for preventing the flow of fluid through the fluid passageway to a second position for permitting the flow of fluid through the fluid passageway.

37. The wand assembly according to claim 20, wherein the nozzle is formed integrally with the distal end of the tube.

38. The child-resistant fluid delivery device according to claim 20, wherein the nozzle is threaded onto the distal end of the tube.

39. The wand assembly according to claim 20, wherein the child-resistant cover is tethered to the tube.

40. A wand assembly for a child-resistant fluid delivery device that includes a container for storing fluid to be dispensed by the fluid delivery device, the wand assembly comprising:

a tube having a proximal end, a distal end and a fluid passageway therethrough;

a child-resistant connector at the proximal end of the tube, the connector being adapted to connect the wand assembly to the container; and

a first ratchet mechanism formed on the exterior of the child-resistant connector for permitting attachment of the connector to the container and for thereafter resisting removal of the connector from the container.

41. The wand assembly according to claim 40, wherein the first ratchet mechanism comprises a plurality of ratchet teeth formed about the perimeter of the child-resistant connector for engaging at least one rigid tab formed on the container, the teeth being configured to permit movement of the connector relative to the container in a first direction and to resist such movement in an opposing direction.

42. The wand assembly according to claim 40, wherein the child-resistant connector includes internal threads for engaging external threads formed on the container.

43. The wand assembly according to claim 40, further comprising a nozzle at the distal end of the tube.

44. The wand assembly according to claim 43, further comprising a

removable, child-resistant cover for sealing the nozzle, the child-resistant cover including at least one member that engages the nozzle to resist removal therefrom.

45. The wand assembly according to claim 44, wherein the member formed in the child-resistant cover engages a recess formed in the nozzle to resist
5 removal of the cover from the nozzle.

46. The wand assembly according to claim 45, wherein the member is an inwardly extending tab projecting from an interior region of the child-resistant cover.

47. The wand assembly according to claim 46, wherein the recess is
10 a channel formed around the perimeter of nozzle.

48. The wand assembly according to claim 47, wherein the nozzle includes at least one groove intersecting with the channel and extending longitudinally from the channel toward a discharge end of the nozzle to permit removal of the child-resistant cover from the nozzle when the member formed on the nozzle is aligned with
15 the groove.

49. The wand assembly according to claim 48, further comprising alignment indicia formed on the nozzle and child-resistant cover, which, when aligned, indicate that the member formed on the nozzle is aligned with the groove.

50. The wand assembly according to claim 44, wherein internal
20 threads formed in the child-resistant cover engage external threads formed on the nozzle to permit the cover to be threaded onto the nozzle.

51. The wand assembly according to claim 50, further comprising a second ratchet mechanism having a plurality of ratchet teeth formed along the circumference of the tube, the ratchet teeth engaging at least one rigid tab inwardly projecting into an interior region of the child-resistant cover, the ratchet teeth being
5 configured to permit rotation of the cover relative to the nozzle in a first direction that permits attachment of the cover onto the nozzle and to prevent rotation in an opposing direction to resist removal of the cover from the nozzle.

52. The wand assembly according to claim 51, wherein the at least one inwardly projecting tab may be disengaged from the ratchet teeth by deforming the
10 child-resistant cover to permit rotation of the cover relative to the nozzle in the opposing direction to remove the cover from the nozzle.

53. The wand assembly according to claim 43, further comprising means for sealing the nozzle.

54. The wand assembly according to claim 53, wherein the sealing
15 means further comprises means for resisting removal of the sealing means from the nozzle.

55. The wand assembly according to claim 43, wherein the fluid passageway in the tube provides a fluid communication path for fluid to pass from the container to the nozzle.

20 56. The wand assembly according to claim 40, further comprising a valve for controlling the flow of fluid through the fluid passageway.

57. The wand assembly according to claim 56, wherein the valve is movable from a first position for preventing the flow of fluid through the fluid passageway to a second position for permitting the flow of fluid through the fluid passageway.

5 58. The wand assembly according to claim 43, wherein the nozzle is formed integrally with the distal end of the tube.

59. The child-resistant fluid delivery device according to claim 43, wherein the nozzle is threaded onto the distal end of the tube.

10 60. The wand assembly according to claim 44, wherein the child-resistant cover is tethered to the tube.

ABSTRACT

A child-resistant fluid delivery device, comprising a container for storing fluid to be dispensed by the fluid delivery device and a wand assembly connected to the container. The wand assembly having a nozzle at a distal end through which fluid may be dispensed and a child-resistant connector at a proximal end. A ratchet mechanism is formed on the exterior of the child-resistant connector to permit attachment of the connector to the container and thereafter prevent removal of the connector from the container. The nozzle is sealed by a removable, child-resistant cover that includes at least one member that engages the nozzle to resist removal therefrom.